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Notice of Allowability	Application No.	Applicant(s)	
	10/769,025	DONG ET AL.	
	Examiner	Art Unit	
	Marcos D. Pizarro-Crespo	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the declaration and response filed on 7/21/2005.
2. ☒ The allowed claim(s) is/are 1-3 and 10-25.
3. ☒ The drawings filed on 30 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>8/15/05</u> 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|---|

Application/Control Number: 10/769,025 (Allowance)
Art Unit: 2814

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Attorney's Docket Number: M-12327-3C US
Filing Date: 1/30/2004
Claimed Priority Date: 2/8/2002 (Continuation of 10/071,689)
Applicant(s): Dong, et al.
Examiner: Marcos D. Pizarro-Crespo

DETAILED ACTION

This Office action responds to the declaration and response filed on 7/21/2005.

Acknowledgment

1. The declaration and response filed on 7/21/2005 in response to the Office action mailed on 5/17/2005 have been entered. The present Office action is made with all the arguments being fully considered. All previous amendments have been entered. Accordingly, pending in this Office action are claims 1-3 and 10-25.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. The application has been amended as follows:

In the specification:

Replace the paragraph on page 1 and immediately below the heading "CROSS REFERENCE TO RELATED APPLICATIONS", with the following new paragraph that is braced by double hyphens (--):

-- The present application is a continuation of, and claims benefit of, U.S. Patent Application No. 10/071,689 filed February 8, 2002, now abandoned, whose entire disclosure is incorporated herein by reference. --

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

After several telephonic interviews and conferences held between the applicant's attorney, Mr. Gimlan, reg. No. 31,955, the examiner, Mr. Pizarro, and the examiner's supervisor, Mr. Fahmy, it was concluded that the declaration filed on 7/21/2005 places the art of record in the context of prior knowledge and explained how the disclosure of the references would have been understood by persons of skill in the semiconductor field. Accordingly, the declaration would be made of record due to its presentation of factual findings with respect to the prior art references and their application against the claims.

The declaration includes statements which amount to an affirmation that the ion implantation step in Lin's method (US 6127227) would result in a *subsurface*, as opposed to a surface, incorporation of nitrogen atoms into the polysilicon layer. The claimed invention, on the other hand, differently recites a nitridation of the silicon surface by a low-energy, low-temperature, surface nitriding process, such as remote plasma nitridation or decoupled plasma nitridation, so as to incorporate nitrogen atoms *into the silicon surface*. Misium (US 6261973) and George (US 6140024), on the other hand, teach a nitridation step of an oxide layer, but the claimed invention recites the incorporation of nitrogen atoms into the surface of a silicon layer.

In view of the foregoing, when all the evidence is considered, the totality of the rebuttal evidence of nonobviousness outweighs the evidence of obviousness. Accordingly, the declaration under 37 CFR 1.132 filed 7/21/2005 is sufficient to overcome the rejection of the claims.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Marcos D. Pizarro-Crespo** at **(571) 272-1716** and between the hours of 9:30 AM to 8:00 PM (Eastern Standard Time) Monday through Thursday or by e-mail via Marcos.Pizarro@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy, can be reached on (571) 272-1705.

7. Any inquiry of a general nature or relating to the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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8. The following list is the Examiner's field of search for the present Office Action:

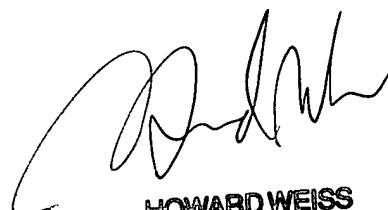
Field of Search	Date
U.S. Class / Subclass(es): 438/257-267, 514-534; 257/324	8/16/2005
Other Documentation: PLUS Analysis	3/10/2005
Electronic Database(s): EAST (USPAT, EPO, JPO)	8/16/2005

Marcos D. Pizarro-Crespo

Patent Examiner

Art Unit 2814

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HOWARD WEISS
PRIMARY EXAMINER